



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,685	08/21/2003	Michael L. Oliver	DP-310121	8290

22851 7590 07/29/2005
DELPHI TECHNOLOGIES, INC.
M/C 480-410-202
PO BOX 5052
TROY, MI 48007

EXAMINER

TO, TOAN C

ART UNIT	PAPER NUMBER
----------	--------------

3616

DATE MAILED: 07/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/645,685

Applicant(s)

OLIVER ET AL.

Examiner

Toan C To

Art Unit

3616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2003.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-28 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/16/04; 6/21/04
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 18 is objected to because of the following informalities: "MR" should be -- magnetorheological--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. Claims 1-28 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Regarding claims 1-28, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).
4. Claims 10-13 and 19 recites the limitation ""said strut". There is insufficient antecedent basis for this limitation in the claim. For purpose of examining the claims on merit, the examiner assumes that applicant intended to claim "said strut module".
5. Claim 8 recites the limitation "said relative rigid portion" in line 1, "said flexible portion" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Double Patenting

6. Claims 1-9 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-25 of

Art Unit: 3616

compending Application No. 10/645,684. Although the conflicting claims are not identical, they are not patentably distinct from each other because the following reasons:

Claims 1-9 of U.S Application No. 10/645,684 read on the claimed limitations as recited in claims 1-9 of the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-7, 9, 13-14, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gross et al (U.S. 6,598,932) in view of Catanzarite et al (U.S. 6,070,681).

Gross et al discloses a controlled suspension system for use between a truck cab and an associated vehicle frame (5) comprising: a strut module (3v, 3h) adapted to be attached at one end to a truck cab (1) and at an opposite end to an associated vehicle frame (5), said strut module including an air sleeve (21) capable of being selectively pressurized; whereby the distance between the cab (1) and the associated frame (5) is maintained within desired limits by selective pressurization of the air sleeve (21).

As to claims 2-7, Gross et al discloses a controlled suspension system wherein the strut module includes a strut having an inner tube (27), an outer tube (23) concentric with the inner tube (27) and a bearing sleeve (roller bearing 23a) positioned between the inner tube (27) and said outer tube (23), whereby the bearing sleeve (23a) distributes a bending moment applied to ends of said strut; wherein the air sleeve (21) is connected to the inner tube (27) and the outer tube (23); wherein the air sleeve (21) is concentric with the inner tube (27); wherein the air sleeve (21) includes a flexible portion connected to the outer tube; wherein the air sleeve includes a relatively rigid portion (19) connection to the inner tube (27); wherein the relatively rigid portion is concentric with the inner tube (27).

As to claim 9, Gross et al discloses a controlled suspension system, wherein the strut module includes a two point/three-point connection (the mounting flange of the combine air spring and shock absorber as shown in figure 4) adapted to interconnect the cab and the frame, whereby the two point/three-point connection resists relative lateral movement between the cab and the frame.

Gross et al fails to disclose the invention, wherein the strut module including a height sensor for measuring a distance between the truck cab and the associated frame and generating a signal indicating thereof; and a controller for receiving the signal from the height sensor and selectively pressurizing the air sleeve; and the controller is mounted on the strut.

Catanzarite teaches the cab suspension including a height sensor (30, 30a, or 30a') for measuring a distance between the truck cab (22) and the associated frame

Art Unit: 3616

(24) and generating a signal indicating thereof; and a controller (36) for receiving the signal from the height sensor (30, 30a, or 30a') and selectively pressurizing the air sleeve (1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cab suspension of Gross et al by attaching the height sensor and the controller as taught by Catanzarite on the mounting flange of the strut module in order to control dynamic vibration (ride comfort), or simply providing a controllable level of damping between the cab and the frame.

With respect to claim 18:

Gross et al teach every element as discussed above except that the strut module include and magnetorheological (MR) strut and the controller is connected to the MR strut to vary the damping characteristics.

Catanzarite teaches the cab suspension system comprising: the strut module include and magnetorheological (MR) strut (28) and the controller (36a) is connected to the MR strut to vary the damping characteristics.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cab suspension system of Gross et al by using teaching of Catanzarite in order to control dynamic vibration (ride comfort) and level of damping between the cab and frame.

9. Claims 19, 21-23, and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gross et al (U.S. 6,598,932) in view of Catanzarite.

Gross et al discloses a controlled suspension system for use between a truck cab and an associated vehicle frame (5) comprising: a strut module (3v, 3h) adapted to be attached at one end to a truck cab (1) and at an opposite end to an associated vehicle frame (5), wherein the strut module includes a two point/three-point connection (the mounting flange of the combine air spring and shock absorber as shown in figure 4) adapted to interconnect the cab and the frame, whereby the two point/three-point connection resists relative lateral movement between the cab and the frame; whereby the distance between the cab (1) and the associated frame (5) is maintained within desired limits by selective pressurization of the strut module.

Gross et al fails to disclose the invention, wherein the strut module including a height sensor for measuring a distance between the truck cab and the associated frame and generating a signal indicating thereof; and a controller for receiving the signal from the height sensor and selectively pressurizing the air sleeve; and the controller is mounted on the strut.

Catanzarite teaches the invention wherein, the cab suspension including a height sensor (30, 30a, or 30a') for measuring a distance between the truck cab and the associated frame (24) and generating a signal indicating thereof; and a controller (36) for receiving the signal from the height sensor (30, 30a, or 30a') and selectively pressurizing the air sleeve (26); wherein the height sensor (30) is integral with the controller (36).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cab suspension of Gross et al by attaching the height

Art Unit: 3616

sensor and the controller as taught by Catanzarite on the mounting flange of the strut module in order to control dynamic vibration (ride comfort), or simply providing a controllable level of damping between the cab and the frame.

With respect to claim 27:

Gross et al teach every element as discussed above except that the strut module include and magnetorheological (MR) strut and the controller is connected to the MR strut to vary the damping characteristics.

Catanzarite teaches the cab suspension system comprising: the strut module include and magnetorheological (MR) strut (28) and the controller (36a) is connected to the MR strut to vary the damping characteristics.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cab suspension system of Gross et al by using teaching of Catanzarite in order to control dynamic vibration (ride comfort) and level of damping between the cab and frame.

10. Claims 10-12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gross et al (U.S. 6,598,932) and Catanzarite and further in view of Peddycord et al (U.S. 6,758,294).

The combination of Gross et al and Catanzarite teach every element of the invention as discussed above except that Gross fails to disclose a transverse frame element and the strut is adapted to be attached thereto; wherein the strut is adapted to be positioned at substantially a midpoint of said transverse frame element; wherein the strut is adapted to be mounted on a downwardly-depending flange of said cab.

Art Unit: 3616

Peddycord et al teaches the invention wherein the suspension system for a truck cab comprising: a transverse frame element (20) and the strut (24) is adapted to be attached thereto; wherein the strut is adapted to be positioned at substantially a midpoint of the transverse frame element (20); wherein the strut is adapted to be mounted on a downwardly-depending flange (46) of said cab.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cab suspension of Gross et al by using the teaching of Peddycord in order to modulate relative motion of the cab with respect to the frame for minimize transmission of a shock or vibration to the cab.

Allowable Subject Matter

11. Claims 8, 15-17 and 24-26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

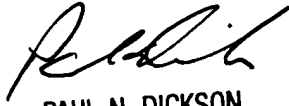
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan C To whose telephone number is (571) 272-6677. The examiner can normally be reached on Mon-Fri (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on (571) 272-6669. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTo
June 22, 2005

 6/27/05
PAUL N. DICKSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600